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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,665	07/19/2000	Shigeto Kamata	684.3049	2162

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EXAMINER

MULLINS, BURTON S

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 01/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/619,665

Applicant(s)

KAMATA ET AL.

Examiner

Burton S. Mullins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-16 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-26 is/are allowed.
- 6) ☒ Claim(s) 1,3,5-9 and 11-15 is/are rejected.
- 7) ☒ Claim(s) 4,10 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 3, 5-9 and 11-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Kamata et al. (US 6,084,319). Kamata teaches a linear motor comprising a magnet 41a (Fig.3); a coil 42a; and a jacket 42b (Fig.4) or jacket covers 14/14' (Figs.8-13) having an inside including "pillar" portions (numbered 8 in Fig., not numbered in Figs.11&13) that form a "comb-shaped" (Fig.13) and extend along the driving direction (Figs.11-13), wherein a cooling medium flows through an inside space enclosed by the jacket (c.5, lines 57-65; Fig.4), and "base portions" (not numbered, see Figs.11&13) comprising recessed portions in the pillar portions, wherein the coils 1a/1b/1c (Fig.13) are held fixed, with respect to the driving direction, by being sandwiched by pillar portions of the comb-shaped member, i.e., "reinforcement members 8/8a/8b in Figs. 8-12), with the members 8/8a/8b of the comb-shaped jacket member 14/14' disposed on at least an outside periphery of the coil, as seen in the various embodiments of Figs.11&13).

Regarding claim 3, note partially-overlapped coils of the embodiments in Figs.15-16 (c.11, line 24+).

Regarding claim 5, the jacket serves as a guide since the movable element 41 (Fig.2) moves relative to the jacket.

Regarding claims 6-7, the device of Kamata drives a movable stage 121 of an exposure apparatus including optical illumination system 127 (Fig.17; c.12, lines 20+). The pillar

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portions 8a', 8b', etc. extend parallel to the driving direction (Fig.10-12) in the sense that they are arranged one after the other in the driving direction.

Regarding claim 8, the method of applying photosensitive material to a substrate, exposing the substrate using the movable stage, and developing the exposed substrate is taught at c.12, line 59-c.13, line 23 (Figs.17-19).

Regarding claim 9, note the "reinforcing" members 8a', 8b', etc. extending in the driving direction (Fig.12).

Regarding claim 11, the reinforcing portions 8a', 8b', etc. do not interfere with the relative motion of the magnet and coil since they are inside the jacket.

Regarding claims 12 and 14, it is evident from Fig.8 that the pillar members 8a', 8b', etc. may be made of the same material as the jacket, i.e., ceramics or a resin (c.2, line 66-c.3, line 1; c.3, lines 13-15; c.7, lines 3-7).

Regarding claim 13, as evident upon comparison of Fig.5 with, e.g., Figs.10-11, the integral reinforcement members comprise protruded shapes adjacent a portion of the jacket where the magnets and coil oppose one another.

Regarding claim 15, as seen in the embodiment of Fig.10, a fixing means 7 spaces the coil 1 from the jacket and integral reinforcement members.

Allowable Subject Matter

3. Claims 4, 10 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art, in particular Kamata, does not teach a jacket

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with a central portion of small thickness and a recessed portion on the outside of the jacket which reinforces the central portion, with bent end portion of the coils disposed at the recessed portion (claim 4); or a reinforcement portion on the outside face of the jacket which extends parallel to the driving direction (claim 10); or a recessed portion on at least the upper or lower half of a section of the jacket when viewed in cross-section (claim 16).

4. Claims 20-26 are allowed. Regarding claim 20, Kamata teaches a linear motor including magnets 3 (Fig.5) and coil holder or “jacket” 14 (Fig.10) formed in a comb-shape, plural coils 1a/1b/1c (Fig.13), plural “recessed” or “base portions” (not numbered, see Fig.13), and plural pillar portions 8a/8b/8c disposed in a first (longitudinal) direction of relative movement between the magnet and coil (Fig.13). Each coil is supported with respect to a second (transverse) direction by the “recessed” or “base” portions. However, there is no teaching or disclosure that the pillar portions are disposed along an outside periphery of the coils, i.e., that the pillar portions contact the coils on the outside periphery of the coils. As best seen in Fig.13, the pillar portions contact the inside periphery of the coils 1a/1b/1c of Kamata.

Response to Arguments

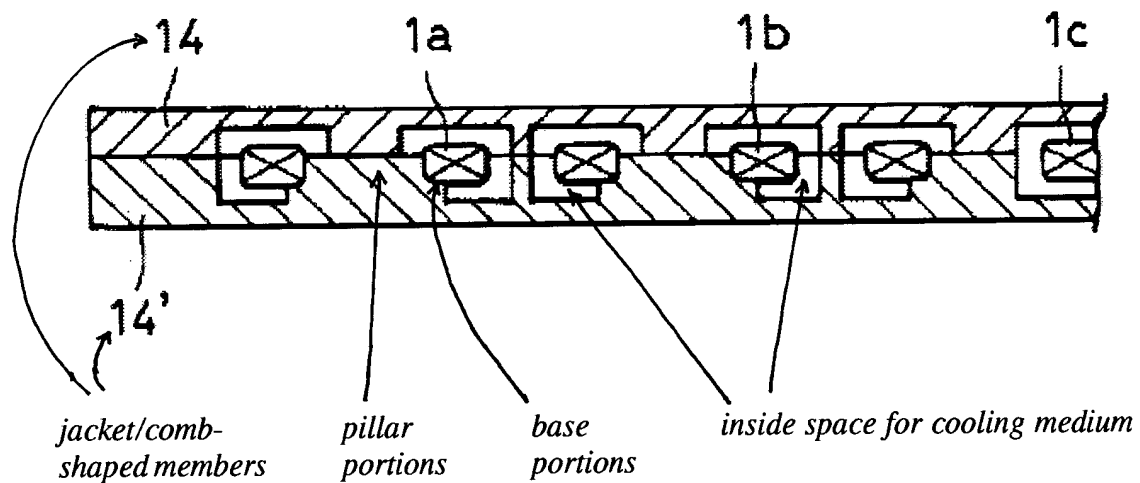
5. Applicant's arguments filed 11-26-02 have been fully considered but they are not wholly persuasive. Regarding independent claim 1, applicant argues that Kamata “fails to disclose or suggest a coil that is supported by base portions in a floating manner and is fixed, with respect to the driving direction, by being sandwiched by the pillar-like portions.”

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In response, the examiner points out that Fig.13 of Kamata discloses a comb-shaped member including base portions and pillar-like portions connecting the base portions. The base portions in Kamata comprise step-shaped indentations in the pillar portions. The base portions further support the coils 1a/1b/1c "in a floating manner," i.e., such that a space exists between either side of the coils and the jacket covers 14/14'. Cooling medium in the jacket can thus flow in the space, on both sides of the coils (c.5, lines 53-65).

KAMATA et al., US Pat.No. 6,084,319

FIG. 13

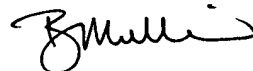


Further, the coils are "fixed with respect to the driving direction" by the base and pillar portions and the pillar portions "sandwich" the coils. See c.5, lines 13-20 where in the first embodiment (Fig.3) a pair of cooling plates 42b are described as "sandwiching both sides of the [coil] row 42a."

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
January 17, 2003